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EXAMINER				
LOWE, MICHAEL S				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/562,179

Applicant(s)

LEE, WAN YOUNG

Examiner

Michael Scott Lowe

Art Unit

3652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/US)
- Paper No(s)/Mail Date 12/22/05.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

Specification

The disclosure is objected to because of the following informalities: The specification is unclear and confusing and appears to be a machine translation. Applicant should certify that no new matter has been added in any clarifying amendments to the specification.

Appropriate correction is required.

Claim Objections

Claim 1, line 3 "angel" should be "angle".

Claim 2 is objected to because of the following informalities: The term U shape should be "U" shape or something similar.

Applicant should review all the claims for other problems. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Re claim 1, the claim states that the transfer (TF) and loading forks (LF) are at a right angle to each other. It is unclear how this could work and also as shown in figure 2 the forks are parallel to each other. It appears that something different was meant to be written in the claim.

Re claims 4,14, applicant does not show or describe how the "pushers" work nor the "weight sensor...makes decision". The items themselves are shown but there is nothing explaining how they actually work that would allow someone of ordinary skill to perform the claim limitations.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claims 1-14, the claims are in places unclear and difficult to understand and appear to be a machine translation. For example claim 4 states "pushers are each longitudinal side" and claim 7 states "the car moves in a traverse".

Re claim 1, it is stated "a palletless rack type parking system comprised of" in line 1 and "the palletless rack type parking system comprising" in line 5. It is not clear what

significance of using "comprised of" and "comprising" is in the two sections. Please explain what is meant in the response.

Re claim 1, it is unclear what "proper interval" or "the accurate place" means.

Re claim 1, it is unclear what "arranged along a width" means since "width" is a distance and not a particular location or relative direction.

Claim 1 recites the limitation "the parking space" in line 18. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the accurate place" in line 21. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the roller's rotation center" in line 14. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the roller" in line 15. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the foreign substance" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the roller's shaft" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the foreign substance" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the space" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Re claim 6, the terms "right angle" and "right or left direction" are unclear since it is not stated what they are being referenced relative to. Also it appears that "guide rail" in line 4 should be "guide rails". Claim 6 and its dependent claims cannot be further treated due to the number of 112 issues.

Re claim 8, it is unclear what is meant by stating the "tab" may "be installed at the upper exterior of the roller". It appears from the drawings that the tab is not actually on the roller but instead on the fork bar(s).

Re claim 9, it is unclear what "a proper height" means or how it is determined.

Re claim 11, the term "between" in line 2 is not true for all occasions as the car is movable. Also "bump" in line 3 appears to have been meant to be "bumper".

Re claim 12, the car is movable so again these statements are not true as written and also the specification states that as there are different variations in car dimensions, the bumper might not always contact the bumper wall when the wheel stop roll contacts the front wheel.

Re claim 13, line 3 states that the binder beams are at a right angle to the fork bar(s) and spaced away in a parallel manner. It seems that the binder beams are being said to be both parallel and at a right angle to the fork bars which does not make sense.

The claims have been interpreted as shown in the rejections below. Applicant should review all the claims for any other issues.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3,5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941).

Re claims 1,3,5, Lee teaches palletless rack type parking system comprised of a plurality of racks (generally 10) having a loading fork (and a stacker crane (generally 40) for loading a car (generally C) onto or unloading from the rack, and the stacker crane having a transfer fork (generally 30), the transfer fork moving up or down in respect to the loading fork, the palletless rack type parking system comprising:

plural fork bars (generally 20) arranged lengthwise with an interval to each other and with a right angle to an approaching direction of the car, and the fork bars (see figures such as figure 10) comprising a front fork row for sustaining front wheels of the car and a rear fork row for sustaining rear wheels of the car, and the front fork row being spaced away from the rear fork row;

longitudinal beam (generally 13) arranged in a right angle against the fork bar, and supporting below the fork bar, so that an passage end of the fork bar takes a form of cantilever (see figure 10), and fixedly mounting each fork bar on the rack;

a floor (generally 16) covering above the longitudinal beam of the parking space except the fork bar row area; and

a position adjustment unit (generally the steering of the car or any of the stacker crane

lateral movement items) for transferring the car along the longitudinal direction of the fork bar so as to park the car on the accurate place.

Lee is silent regarding rollers but Morfin teaches plural rollers (generally 61 & figure 8) being arranged in a proper interval in the fork bar and the roller's rotation center arranged along a width of the fork bar, the upper portion of the roller having an excessive protrusion above the top of the fork bar so as to allow wheels of the car to be rolling-contacted and also to allow easier lateral position adjustment (generally 64, figure 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Lee by Morfin to have plural rollers (generally 61 & figure 8) being arranged in a proper interval in the fork bar and the roller's rotation center arranged along a width of the fork bar, the upper portion of the roller having an excessive protrusion above the top of the fork bar so as to allow wheels of the car to be rolling-contacted in order to achieve the predictable result of allowing easier lateral position adjustment and movements.

Claims 2,3,5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941) and Porter (US 2,846,088).

Re claim 2,3,5, Lee as modified by Morfin teaches the fork bar has approximate U shape, and the roller is rotationally assembled at each longitudinal wall of the fork but do not give roller fork details. Porter (see figures) teaches a plurality of foreign substance outlets formed at the floor of the fork bar along a longitudinal direction in

order to allow for easier maintenance. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Lee by Porter to have a plurality of foreign substance outlets formed at the floor of the fork bars along a longitudinal direction in order to achieve the predictable result of easier maintenance.

Claims 3,5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941), Porter (US 2,846,088) and Ransill (US 6,554,116).

Re claim 3,5, Lee's floor (generally 16) meets the cover limitation as currently written. For sake of speeding prosecution of the case it is noted that Ransill teaches a cover (generally 6, etc.) for safety and improved maintenance qualities. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Lee by Ransill to have a cover in order to achieve the predictable result of improving safety and maintenance qualities.

Claims 3,4,5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941), Porter (US 2,846,088) and McCreary (US 3,756,432).

Re claims 3,4,5, Lee's floor (generally 16) meets the cover limitation as currently written. For sake of speeding prosecution of the case it is noted that McCreary teaches a cover (generally 76, etc.) and a support hole (figure 4) formed at both longitudinal walls of the fork bar, an upper portion of the support hole is left open so as to support

rotation of the roller's shaft, plural pushers are each longitudinal side of the cover covering the upper opening of the fork bar and perpendicularly push the shaft of the roller toward the lower portion of the longitudinal wall for safety and improved maintenance qualities. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Lee by McCreary to have a cover and setting as claimed in order to achieve the predictable result of improving safety and maintenance qualities.

Claims 9,10,11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941) and Takahiro (US 5,083,891).

Re claims 9,10,11, Lee does not mention projection tabs or stoppers but Takahiro teaches it is known (figure 3) to place tabs & stoppers to limit lateral or other movement of vehicles for safety. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Lee by Takahiro to have projection tabs anywhere along lateral movement surfaces in order to improve safety.

Claims 9,10,11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941) and Buckenauer (US 5,851,098).

Re claim 9,10,11, Lee does not mention projection tabs or stoppers but Buckenauer teaches it is known (figures 18,19,etc.) to place tabs & stoppers to limit lateral or other movement of vehicles for safety. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Lee by Buckenauer to have projection tabs anywhere along lateral movement surfaces in order to improve safety.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941), Takahiro (US 5,083,891) and Goodwyn (US 2,650,728).

Re claim 12, Goodwyn teaches use of bumper walls (generally 47) to increase safety. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Lee by Goodwyn to have bumper walls to achieve the predictable result of further increasing safety.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941), Buckenauer (US 5,851,098) and Goodwyn (US 2,650,728).

Re claim 12, Goodwyn teaches use of bumper walls (generally 47) to increase safety. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Lee by Goodwyn to have bumper walls to achieve the predictable result of further increasing safety.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941) and Bardo (US 5,236,625).

Re claim 13, Lee teaches the fork bars are placed on multiple parallel beams but does not teach binder beams which have a channel form and are arranged in a right angle to the fork bar and spaced away in a parallel manner, and the binder beam is assembled with the longitudinal beam therethrough. Bardo teaches putting channel binder beams around longitudinal beams (see figures such as figure 9) to increase safety and structural strength as well as to allow the structure to be disassembled more easily. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Lee by Bardo to have channel binder beams around longitudinal beams to achieve the predictable result of increasing safety and structural strength as well as allowing the structure to be disassembled more easily.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,702,541) in view of Zamorano Morfin (US 5,829,941), Bardo (US 6,647,161) and Choi (US 6,085,124).

Re claim 14, Lee is silent regarding weight sensors. Hodge teaches use of a weight sensor (generally 12, etc.) installed at the central portion of a longitudinal beam, by which the deflection is measured. Choi teaches using weight sensors to measure weight due to the load of the car is measured, by which the system makes decision whether or not the car is loaded or unloaded. It would have been obvious to one of

ordinary skill in the art at the time the invention was made to have tried modifying Lee by Bardo and Choi to located a weight sensor at a central portion of a longitudinal beam to measure weight due to the load of the car by which making decision whether or not the car is loaded or unloaded in order to achieve the predictable result of improving safety.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Scott Lowe whose telephone number is (571)272-6929. The examiner can normally be reached on 6:30am-4:30pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on (571)272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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